

interactive video vignettes

# User Manual

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# The Interactive Video Vignettes Project

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<http://www.ComPADRE.org/ivv/>

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# Introduction

Interactive Video Vignettes (IVVs) are ungraded web-based assignments for introductory physics students. They combine the convenience of online video with video analysis and the interactivity of individual tutorials. Each online vignette addresses a known learning difficulty. A typical vignette takes about 10 minutes or less to complete. It invites each student to make predictions, perform observations, and draw conclusions about a single phenomenon. The design of vignettes is informed by the outcomes of physics education research and is being refined through a research-based development process. The possible uses of vignettes include:

- Online assignments similar to ungraded homework that carry completion credit (This enables students to make authentic predictions without feeling they are being judged.)
- Examination preparation
- A tutorial setting where students work in collaborative groups
- A flipped classroom assignment where a vignette is completed before its topic is introduced in class
- An online textbook enhancement.

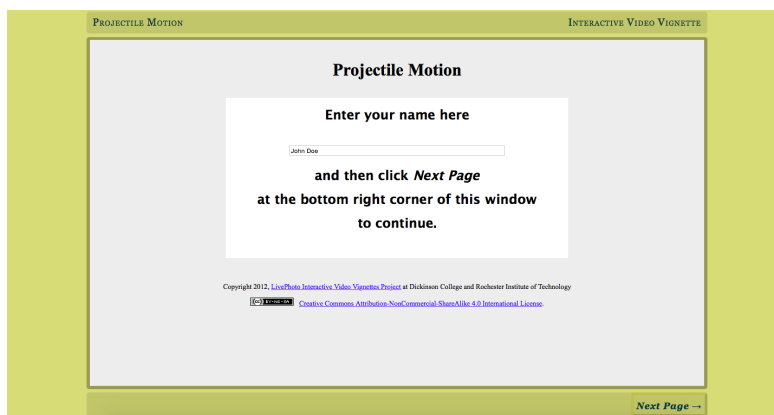
## Vignette Example

To view example vignettes, go to the following link, <http://www.compadre.org/IVV/collection.cfm>. This section of the user guide is a brief overview of the components involved in composing a vignette.

### Projectile Motion Example

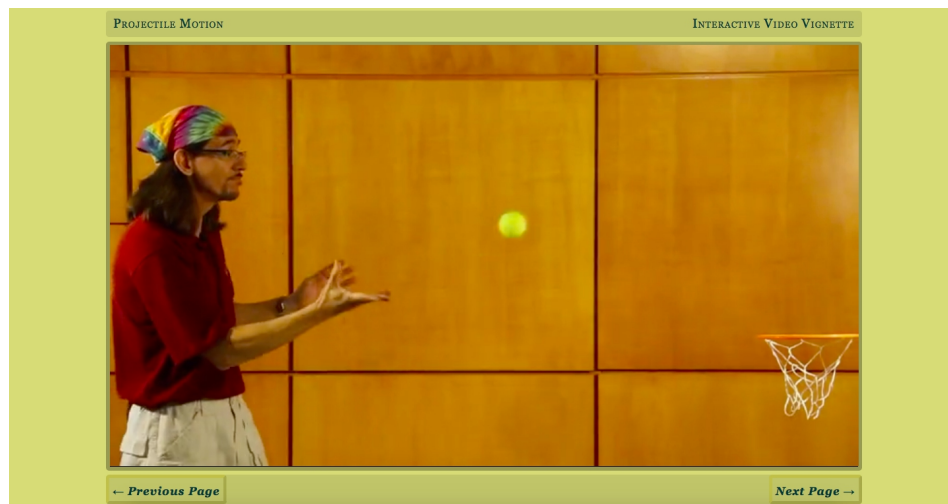
In this section the Projectile Motion Vignette, found at the link above, will be described.

**Page One** - The first page of this vignette consists of a login page. The user is asked to enter their name. The input the user provides is then stored within the vignette and may reappear later in the Certificate page. After the user types in their information, they may proceed with the vignette by left-clicking the “Next Page” button.

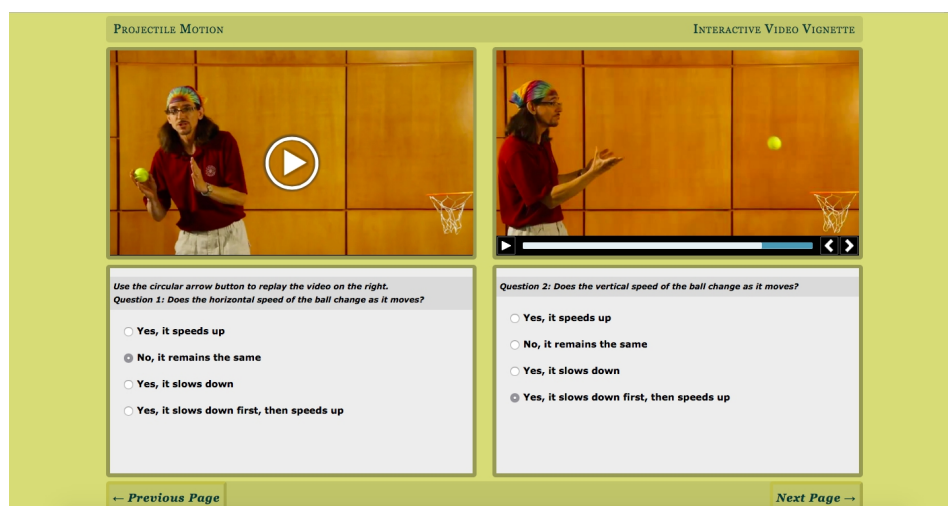


The screenshot shows a web browser window with a light green border. At the top, there are two tabs: "PROJECTILE MOTION" and "INTERACTIVE VIDEO VIGNETTE". The main content area has a white background with a light gray border. It contains the following text: "Projectile Motion" in bold, "Enter your name here" in bold, a text input field with "John Doe" entered, and "and then click *Next Page* at the bottom right corner of this window to continue." in bold. At the bottom of the white area, there is small text: "Copyright 2012, LivePhoto Interactive Video Vignettes Project at Dickinson College and Rochester Institute of Technology" and a Creative Commons license icon. In the bottom right corner of the green border, there is a button labeled "Next Page →".

**Page Two** - The second page consists of a video player. The user is presented with a short video that provides background on the subject. After the user watches the video, they may proceed with the vignette by left-clicking the “Next Page” button.



**Page Three** - The third page consists of four different zones: a video player, a frame player and two question zones. When the page first loads, the video player, in the top left, will automatically play a video that provides additional background information on the subject. At the bottom of the page the user is presented with two questions. A frame player is provided in the top right corner for users to scrub frame by frame to better answer the question. After the user answers the questions, they may proceed with the vignette by clicking the “Next Page” button.



**Page Four** - In the fourth page the user is presented with an interactive activity. There is text in the bottom half of the page. The user is asked to click on the center of the ball in each frame of the video to mark the position. The purpose of this activity is to analyze the horizontal motion of the ball. A video in the top left of this page gives the user a hint about the objective of the task. As usual, the user proceeds by clicking the “Next Page” button.

The screenshot shows a web interface for a physics activity. At the top, there are two tabs: "PROJECTILE MOTION" and "INTERACTIVE VIDEO VIGNETTE". The "PROJECTILE MOTION" tab is active, displaying a video of a person in a red shirt holding a yellow ball. A large play button is overlaid on the video. To the right of the video is a smaller window showing a sequence of frames from the video, with a yellow ball's position marked in each frame. A timeline at the bottom of this window shows the current frame at  $t = 0.30s$ . Below the video windows, a large white box contains the instruction: "Click on the center of the ball in each frame of the video to mark its position." At the bottom of the page, there are two buttons: "Previous Page" and "Next Page".

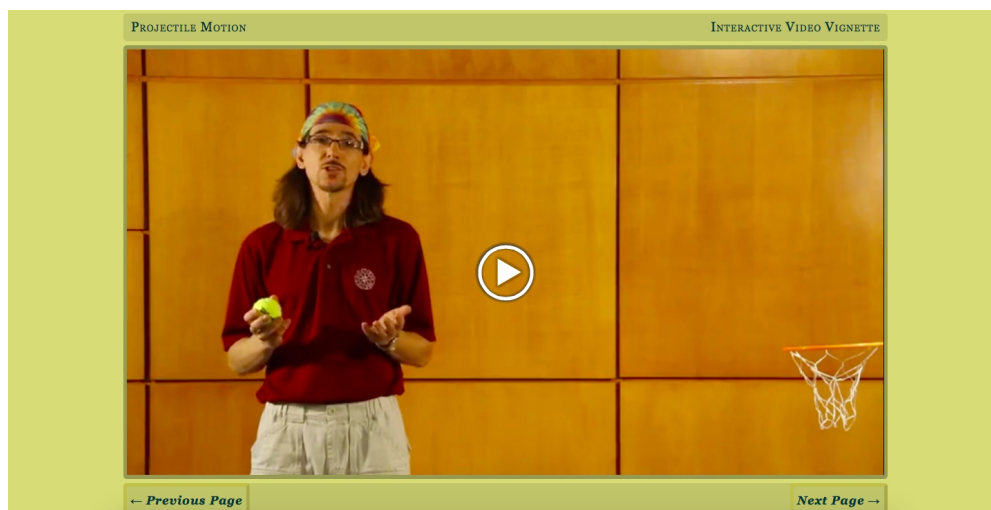
**Page Five** - In the fifth page the user is given feedback as well as the correct explanation to the first question asked. At the top of the page a video plays in which the instructor reinforces the concept and recaps the purpose of the activity.

The screenshot shows the same web interface as Page Four, but now the "INTERACTIVE VIDEO VIGNETTE" tab is active. The "PROJECTILE MOTION" tab is still visible on the left. The "INTERACTIVE VIDEO VIGNETTE" tab displays a video of the same person in a red shirt, now holding the yellow ball. A large play button is overlaid on the video. To the right of the video is a smaller window showing a sequence of frames from the video, with a yellow ball's position marked in each frame. A timeline at the bottom of this window shows the current frame at  $t = 0.45s$ . Below the video windows, a large white box contains the feedback text: "When asked whether the horizontal speed of the ball changes as it moves, you picked the answer, 'No, it remains the same.' This is correct. Nice job!" At the bottom of the page, there are two buttons: "Previous Page" and "Next Page".

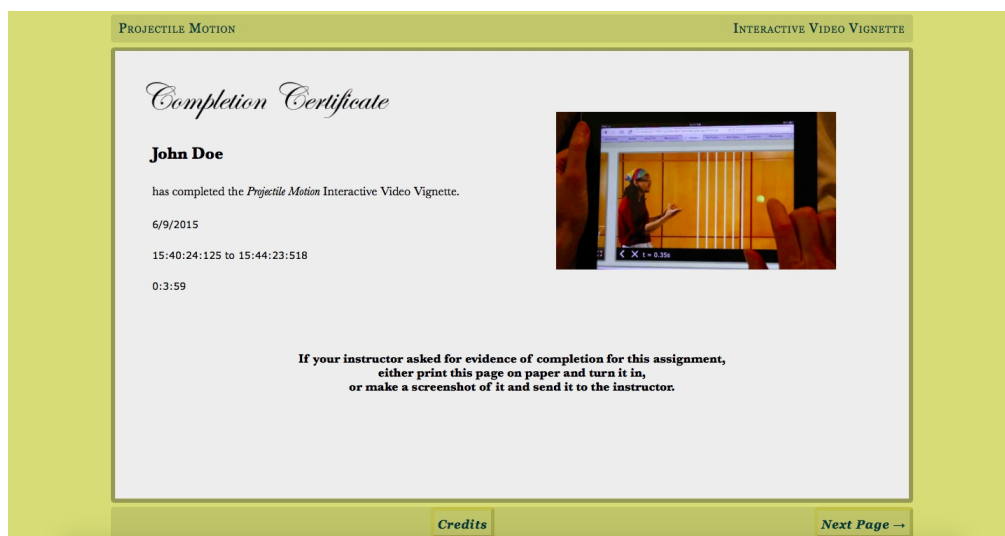
**Page Six** - The sixth page is exactly the same as the fourth page except the activity on this page is analyzing vertical motion.

**Page Seven** - The seventh page is exactly the same as the fifth page except it corresponds to the vertical motion analyzed from the corresponding page.

**Page Eight** - Page eight contains a single section with a video player. The video recaps the vignette and summarizes the lesson.



**Page Nine** - The last page of the vignette presents the user with a printable certificate. The login data collected from the first page of the vignette is incorporated within the certificate.



The End

# Making Your Own Vignettes

Making a Vignette is easy to do with the free software, Vignette Studio. It is a Java based application that uses a visual programming environment.

## Setup/Installation

To install the Vignette Studio software:

1. At this link: <http://www.compadre.org/IVV/studio.cfm> , click on the download button at the bottom of the page.
2. A zip file will be downloaded to your browser's standard download folder.
3. Unzip the zip file.
4. The downloaded folder named "Vignette Studio" contains the Java application "VignetteStudio-1.7.5.jar", "README-Make-Your-Own.txt" quick guide, "Sample\_Vignette\_Resources" folder with resources (that accompany the Step-by-Step guide in the Building a Vignette Step by Step Tutorial chapter), "Vignette\_Studio\_Manual" this manual in the form of a .pdf file, "Practice\_Materials" folder with example videos and "BB\_Script.pdf," a sample Interactive Video Vignette script.
5. To open the application double click on the "VignetteStudio-1.7.5.jar" file.
6. A window with a new workspace will appear.

## Opening Vignettes

All of the resources and software of a vignette are stored in a single folder. To open a vignette locate the ".vignette" file within the main folder of the Vignette file structure. To do this use the File... Open menu item in Vignette Studio. The other folders within the main folder contain videos, images and other resources required for compiling the Vignette.

## Sharing and Hosting Vignettes

In order to share a Vignette it must be uploaded to an available website. See the website [www.compadre.org/ivv](http://www.compadre.org/ivv) for tips on how to find a suitable website. Once a website domain is acquired, the entire Vignette file folder may be uploaded. Vignettes are scripted in HTML format and are intended to be utilized with many of the most popular web browsers. Safari, Chrome, Firefox, Opera and Internet Explorer are all compatible with Vignettes.

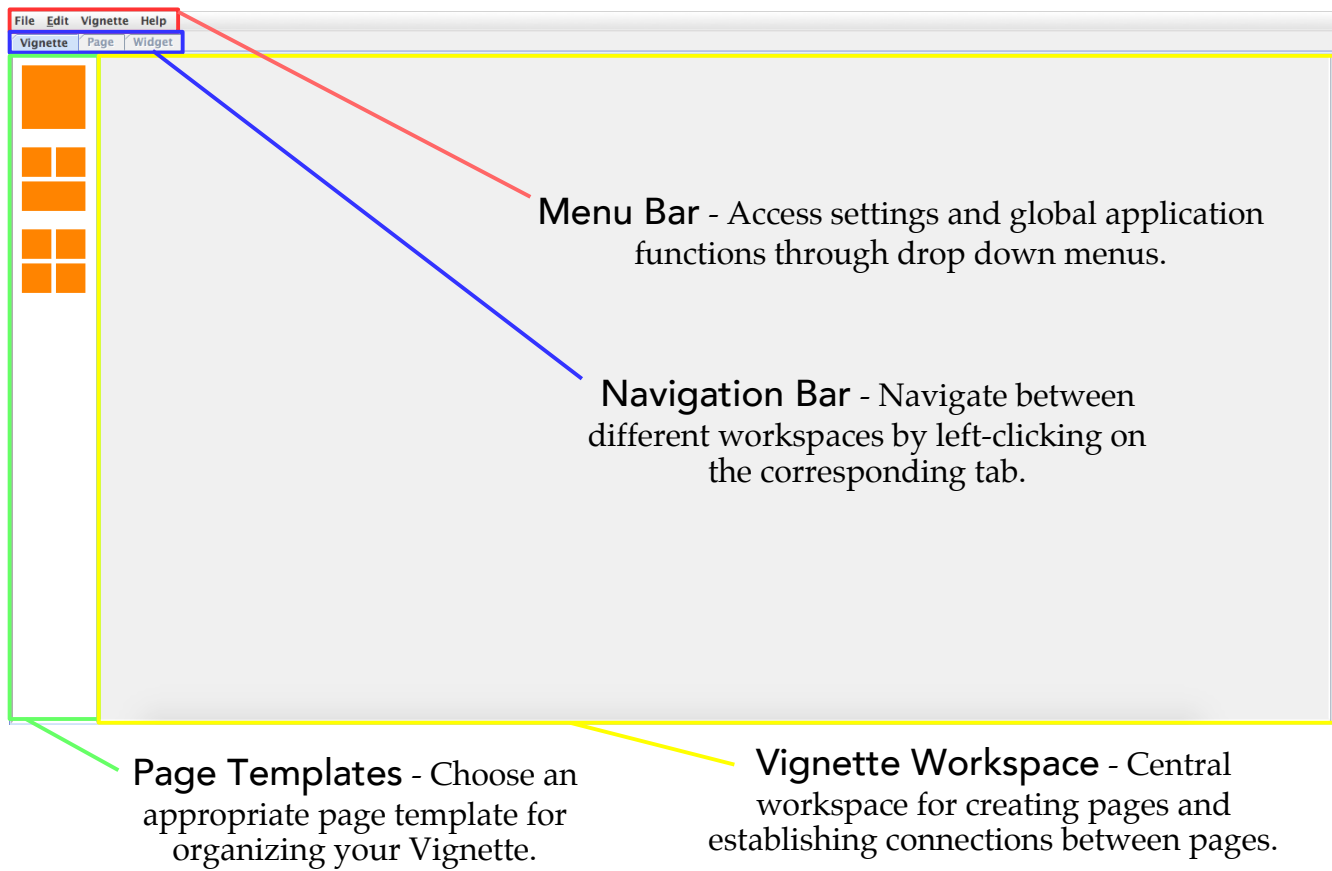


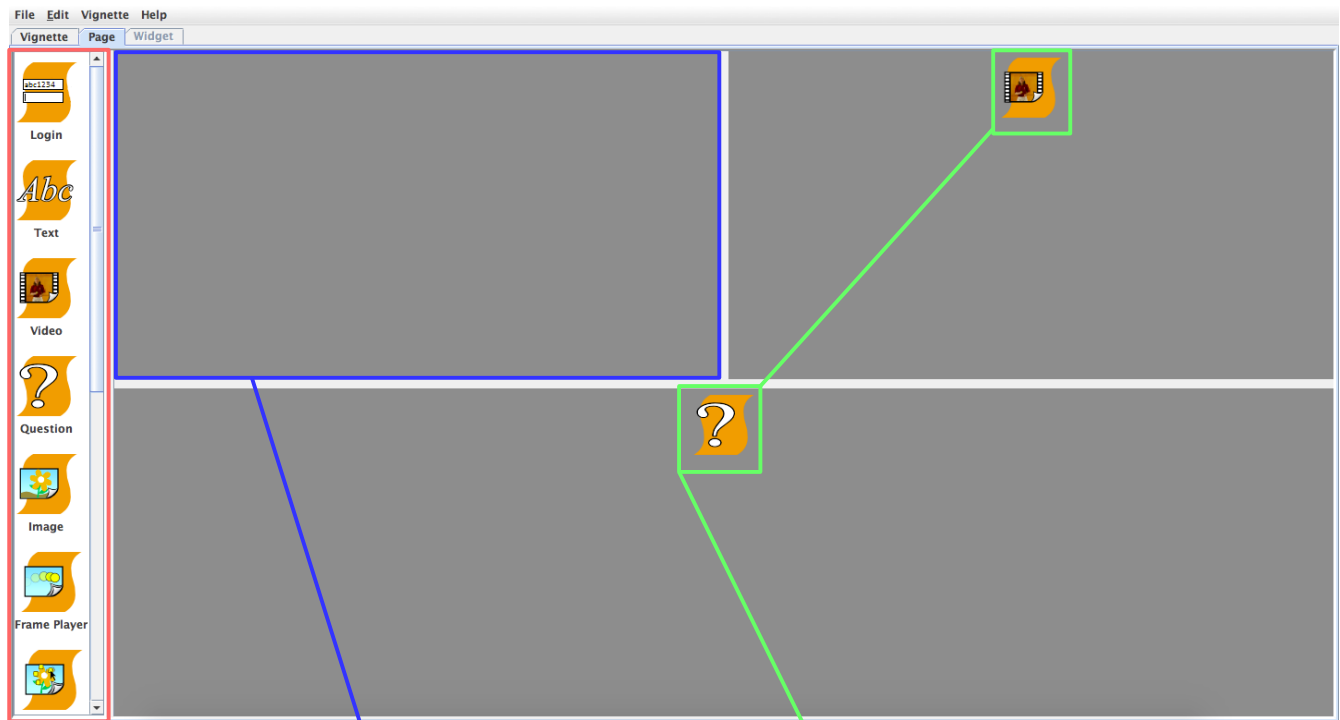
# Overview of Components

**Workspace** - A blank area for dragging pages and building Vignettes. This is where the functionality of the vignette and the interactions between the *pages* can be seen. To add a page to the *workspace*, simply click and drag one of three *page templates* to the workspace. One page must be designated as the 'start page.'

**Page** - Vignettes consist of several pages. Create a page by dragging a page template anywhere onto the Vignette Studio workspace. There are three *page templates*. The template will divide a page into one, three, or four zones. The three-zone page has two quarter zones on top and one half zone on the bottom. The four-zone page has four quarter zones. To access a certain page from the workspace, double-click the icon of the desired page in the workspace.

**Widget** - A single self-contained function may be placed within each zone on a page. These functions are called *widgets*. Create widgets by dragging a specific widget onto a zone of an already created page. (See Widget section for examples.) To access and edit a dropped widget from the page tab, double-click on the zone that contains the widget. To delete a widget, right-click the zone that contains the widget and click delete. To replace a widget with another, simply drag another widget to the zone and replace the widget.





**Dropped Widgets** - These are widgets that have already been dragged and dropped.

**Zone** - Zones are for placing widgets. This zone is currently empty. To add a widget to this zone select a widget from the widget browser and drag it to this pane and drop it. Drag and drop by clicking and holding the left mouse button until the mouse is hovered over the zone. Release the mouse button to place the widget.

**Widget Browser** - This browser contains all the widgets available for creating vignettes. Scroll down to view more widgets.

# Page Interactions

**Opening** - Open a *page* by double-clicking to view its zone layout and assign each zone its own widget. *Pages* can also be opened by right-clicking a *page* and selecting *Open*.

**Editing** - *Page* names can be renamed by right-clicking on a *page* and selecting *Edit*.

**Deleting** - *Pages* can be deleted by right-clicking on a *page* and selecting *Delete*.

**Connecting/Disconnecting** – Users navigate through a vignette with the *Next Page* and *Previous Page* buttons. To create a link between two *pages* right-click on a *page* and select *Connect*. Then select the desired next *page* by left-clicking. Disconnecting two *pages* can be accomplished by right-clicking either *page* and selecting *Disconnect*.

## Connect Credits

To create a Credits page, make a page containing a *Text Widget* holding the credits. Right-click on the last page of the vignette, choose *Connect Credits* and then left-click on the Credits page.

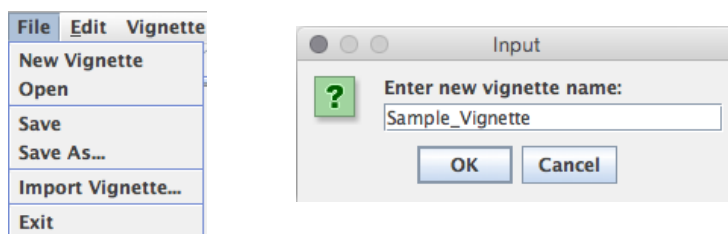
**Branching** - “Branching” is available for creating connections from one *page* to multiple other *pages*, as dictated by user input. For more information on *branching*, see the *Question Widget* description.

**Adding Widgets** - Add a widget by double-clicking on a created *page* from the *workspace*. This will take you to the *Page* edit tab of the *workspace*. While in the *Page* edit tab of the *Workspace* drag and drop *widgets* onto the zones of the corresponding *page template*.

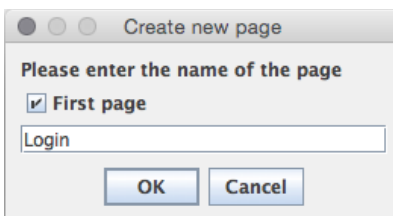
# Building a Vignette Step by Step Tutorial

Build a Vignette from scratch using the supplied resources found in the "Sample\_Vignette\_Resources" folder that is included within the "Vignette\_Studio" folder. This step by step guide provides instructions for creating a seven page vignette on the topic of acceleration. The completed version of this vignette can be viewed at the following link, [www.compadre.org/ivv](http://www.compadre.org/ivv).

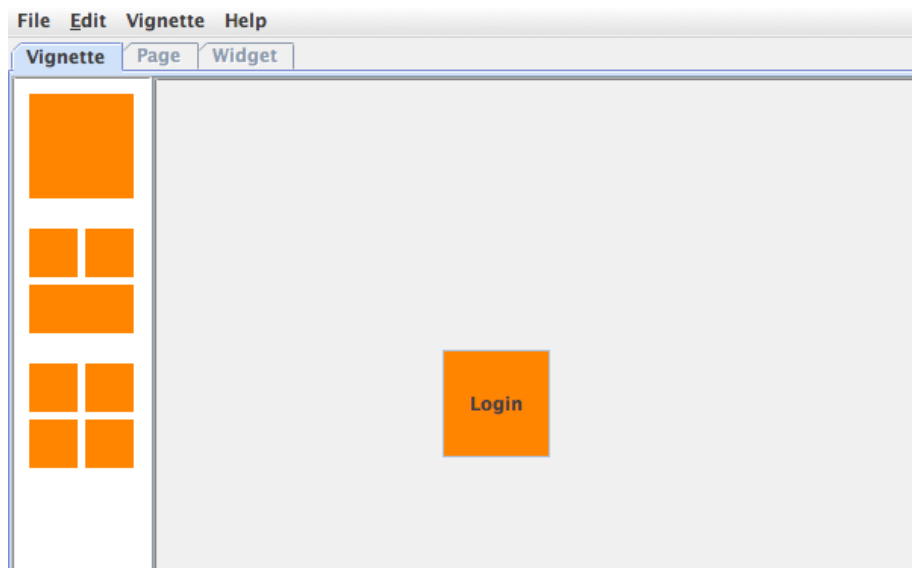
1. Open the Vignette Studio application. (Refer to the Setup/Installation chapter within the Making Your Own Vignette Chapter).
2. Left-click on the File drop down list from the *Menu Bar* and select *New Vignette*. A dialog window will prompt an input for naming the vignette file. Choose a name for the vignette (ex. "Sample\_Vignette") and left-click ok.



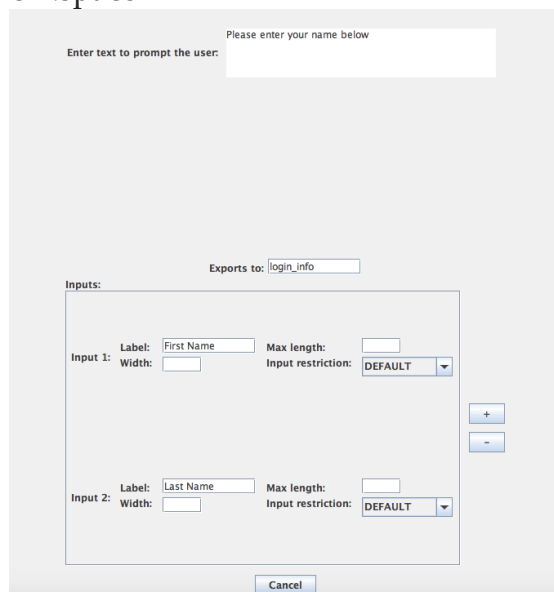
3. Left-click and hold on the single zone *page template*, then drag and release the left mouse button anywhere inside the *Workspace*. A dialog box will appear prompting input for the page name. For this tutorial type in "Login" and make sure the check box *First Page* is checked.



4. Double-clicking on the newly created "Login" page will open the page into the *Page* tab of the *Navigation Bar*. While in the *Page* tab drag and drop a Login widget onto the page's singular zone. When the *Login Widget* is successfully dragged and dropped a *Login Widget* icon will appear within the singular zone.



5. Double-click on the created *Login Widget* icon to open the widget in the *Widget* edit tab and begin editing its contents. Where it says, “Enter text to prompt the user:” enter, “Please enter your name below” inside the box. Next to the text “Exports too:” enter, “login\_info” or any variable name you want. (Any user input collected from this *Login Widget* can be accessed by other widgets with the variable name chosen. So, remember the name you choose.) Left-click on the “+” button towards the bottom right of the *Login Widget* edit tab to create an additional user input entry. For *Input 1* type in “First Name” for the *Label* parameter. For *Input 2* enter “Last Name” for the *Label* parameter. Leave the *Max Length*, *Input Restrictions* and *Width* values unchanged. They will automatically be set to the default settings. Left-click on the *Vignette* tab to return to the main workspace.

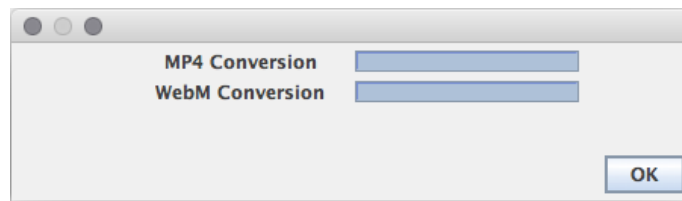


6. Repeat the same drag and drop process from before to create a new page. Choose the single zone page template and name the page “Page1” when the dialog box appears. Double-click on the newly created “Page1” page to open the page into the *Page* edit tab of the *Navigation Bar*. While in the *Page* edit tab of the drag and drop a *Video*

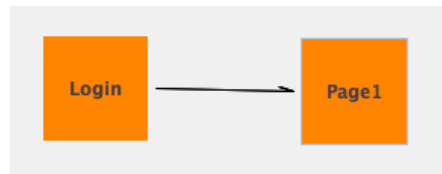
**Widget** onto the page's singular zone. When the **Video Widget** is successfully dragged and dropped a **Video Widget** icon will appear within the singular zone.



7. Double-click on the created **Video Widget** icon to open the widget in the **Widget** edit tab and begin editing its contents. Leave all settings at their default values, but click on the **Video File** button. A browser window will pop up and allow you to choose a video file to upload. Locate the "Page1.mp4" file within the "Sample\_Vignette\_Resources" folder. Once the file is located, click open and the video file will be converted to two different optimal formats for web playback. Once the conversion is complete click the OK button and then click on the **Vignette** tab to go back to the **Workspace**.

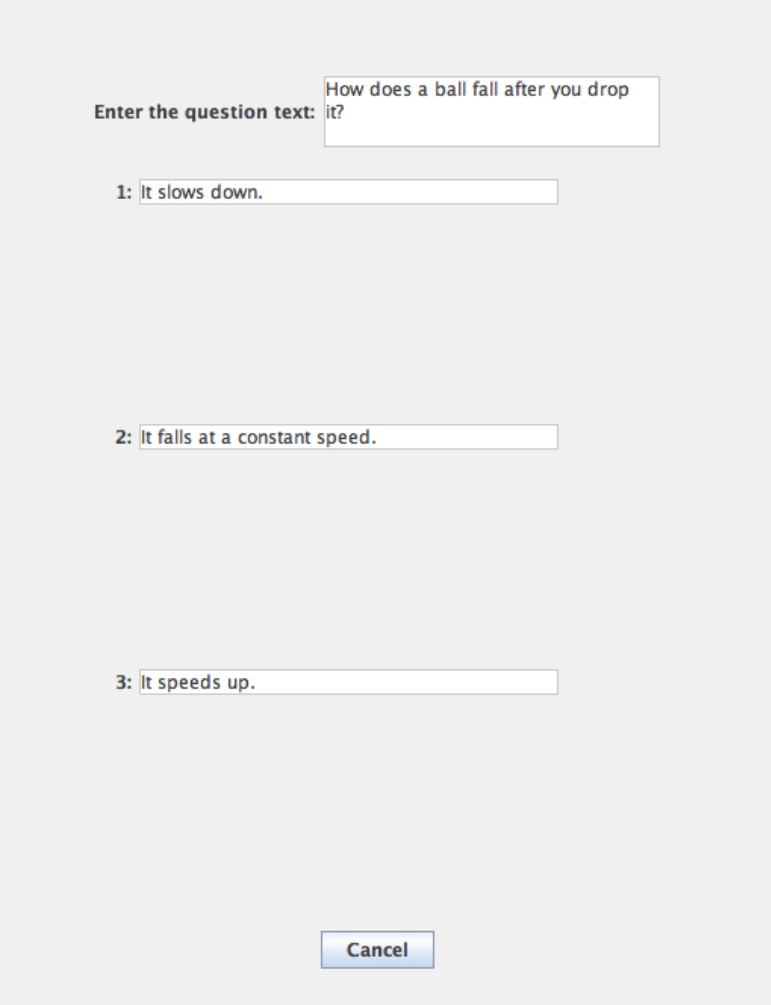


8. Congratulations, your vignette now has two pages! Since there are two pages in the **Workspace** a connection can be established. Right-click on the "Login" page to bring up a drop down menu at the cursors location. Select **Connect** within the drop down. Whichever page is selected next will be directly linked to the "Login" page. For this demonstration select the "Page1" page. If the "Login" page is accidentally selected instead of the "Page1" page, then repeat the right-click drop down process.



9. Let's create another page. Select the three zone page template to drag and drop onto the **Workspace**. Keeping a consistent naming convention makes for a more streamlined workflow. So, name the new page "Page2" when the dialog box appears and left-click OK. Once the page is created left-click on it to open the page in the **Page** edit tab. For this page add the following widgets by dragging and dropping each widget icon from the **Widget Browser** to their corresponding locations. In the top left zone add a **Video Widget**. In the top right zone add an **Image Widget**. Finally, add a **Question Widget** in the bottom half zone. Left-click on the top left **Video Widget** to open up the widget in the **Widget** edit tab and upload the "Page2.mp4" file within the "Sample\_Vignette\_Resources" folder. Return to the **Page** edit tab and left-click on the **Image Widget** in the top right zone. In a similar fashion to the **Video Widget**, upload process go ahead and upload the supplied image file "Page2\_image.jpg" located within the "Sample\_Vignette\_Resources" folder. Finally, left-click on the **Question Widget** in the bottom half zone. Next to the text that says, "Enter the question text:",

enter "How does a ball fall after you drop it?" in the entry box. Left-click on the "+" button on the right within the *Question Widget* edit tab. Now there are three possible answers for the user to choose from. Fill out the *Question Widget* accordingly, for answer 1 enter, "It slows down." For answer 2 enter, "It falls at a constant speed." For answer 3 enter, "It speeds up." Click on the *Vignette* edit tab to return to the main *Workspace*.



The screenshot shows a dialog box for editing a question. At the top, there is a label "Enter the question text:" followed by a text input field containing the question "How does a ball fall after you drop it?". Below this, there are three numbered answer fields. The first field is labeled "1:" and contains the text "It slows down.". The second field is labeled "2:" and contains the text "It falls at a constant speed.". The third field is labeled "3:" and contains the text "It speeds up.". At the bottom of the dialog box, there is a "Cancel" button.

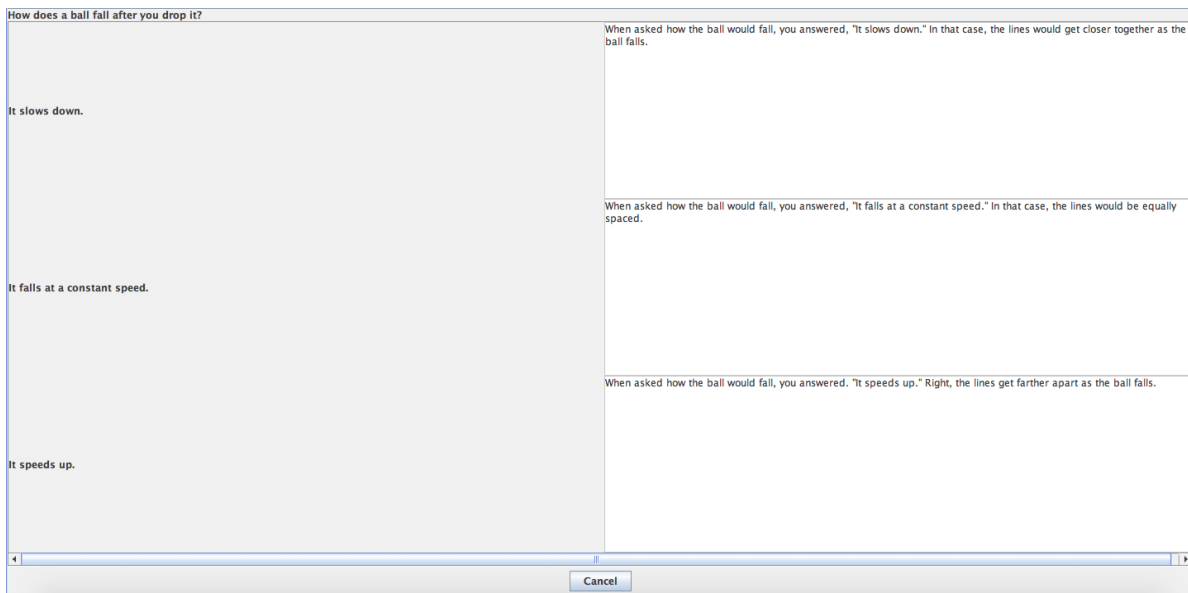
10. Let's make another page. Select the three zone page template to drag and drop onto the *Workspace*. Name the new page, "Page3" when the dialog box appears and left-click ok. Once the page is created left-click on it to open the page in the *Page* edit tab. For this page add the following widgets by dragging and dropping each widget icon from the widget browser to their corresponding locations. In the top left zone add a *Video Widget*. In the top right zone add an *X-Y Analysis Widget*. Finally, add a *Text Widget* to the bottom half zone. Left-click on the top left video widget to open up the widget in the *Widget* edit tab and upload the "Page3.mp4" file within the "Sample\_Vignette\_Resources" folder. Return to the *Page* edit tab and left-click on the *Text Widget* in the bottom half zone. In the *Widget* edit tab underneath "Add your text:" enter "Click on the center of the ball in each frame of the video. When you get to the last frame, click on the *Next Page* button." (Note that some HTML has been provided to properly format the desired text. Make sure to only delete the text in the

entry box that says “Delete this sentence and replace it with your text.”) Return to the *Page* edit tab and left click on the *X-Y Analysis Widget* in the top right zone. In the *Widget* edit tab set the following parameters accordingly. Left-click on the “Select Frames” button to open up the *Video Frames Window*. Check to make sure “Frame Selection Mode:” is set to “Video”. Then locate the “BallDrop.mp4” file within the “Sample\_Vignette\_Resources” folder. Click “Save” to close the window. Set the “Displays” value to “HORIZONTAL” and enter a variable name such as “xy\_analysis” next to the “Exports To:” for other widgets to access. (Any user input collected from this *X-Y Analysis Widget* can be accessed by other widgets with the variable name chosen. So, remember the name you choose.) Left-click on the *Vignette* edit tab to return to the main *Workspace*.

Select Frames	# of Objects: 1	Exports To: xy_analysis	Tracks: any	Displays: HORIZONTAL
Settings	Instructions:	Hint:		

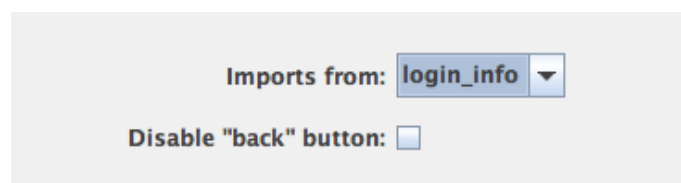
- Let's make another page. Select the three zone page template to drag and drop onto the *Workspace*. Name the new page “Page4” when the dialog box appears and left-click OK. Once the page is created left-click on it to open the page in the *Page* edit tab. For this page add the following widgets by dragging and dropping each widget icon from the *widget browser* to their corresponding locations. In the top left zone add a *Video Widget*. In the top right zone add a *X-Y Analysis Widget*. Finally in the bottom half zone add an *Answer Widget*. Left-click on the top left video widget to open up the widget in the *Widget* edit tab and upload the “Page4.mp4” file within the “Sample\_Vignette\_Resources” folder. Return to the *Page* edit tab and left-click on the *X-Y Analysis Widget* in the top right zone. In the *Widget* edit tab set the following parameters accordingly. Left-click on the “Select Frames” button to open up the *Video Frames Window*. Check to make sure “Frame Selection Mode:” is set to “Video,” the frame rate will automatically be set to the inherent frame rate of the chosen video file. Then locate the “BallDrop.mpeg” file within the “Sample\_Vignette\_Resources” folder. Click “Save” to close the window. Set the “Displays” value to “HORIZONTAL” and make sure the variable name next to the “Exports To:” matches the variable name from before. (“xy\_analysis” should be the correct variable name.) Return to the *Page* edit tab and left-click on the *Answer Widget* in the bottom half zone. In the *Widget* edit tab make sure that the long drop down below the *Navigation Bar* is set to “PPage2\_W3\_question” and that the loaded information is correct. The text next to each entry box should reflect the information from the *Question Widget*. The entry boxes next to each possible answer from the *Question Widget* provide unique feedback. Fill out the *Answer Widget* entry boxes accordingly. Next to “It slows down” enter, “When asked how the ball would fall, you answered, “It slows down.” In that case, the lines would get closer together as the ball falls.” Next to “It falls at a constant speed” enter, “When asked how the ball would fall, you answered, “It falls at a constant speed.” In that case, the lines would be equally spaced.” Finally, next to “It speeds up” enter, “When asked how the ball would fall, you answered. “It speeds up.” Right, the lines get farther apart as the ball falls.” Now that the all of the widgets on “Page4” are filled out, left-click on the *Vignette* edit tab to return to the main *Workspace*.



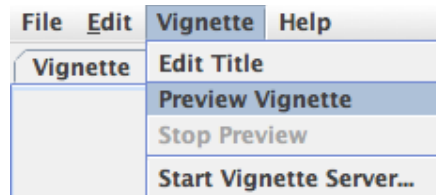


12. Adding a video at the end of a vignette provides recap of the lesson. Select the single zone *page template* to drag and drop onto the *Workspace*. Add a *Video Widget* to the single zone. Double-click on the created *Video Widget* icon to open the widget in the *Widget* edit tab and begin editing its contents. Leave all settings at their default values, but click on the *Video File* button. A browser window will pop up and allow you to choose a video file to upload. Locate the “Page5.mp4” file within the “Sample\_Vignette\_Resources” folder. Once the file is located, click open and the video file will be converted to two different optimal formats for web playback. Once the conversion is complete click on the *Vignette* tab to go back to the *Workspace*.

13. Ending the vignette with a confirmation page or certificate page and asking students to hand in a printout is a good way to ensure the lesson has been completed. Select the single zone *page template* to drag and drop onto the *Workspace*. Add a *Certificate Widget* to the single zone. Double-click on the created *Certificate Widget* icon to open the widget in the *Widget* edit tab and begin editing its contents. From the “Imports from:” drop down select “login\_info” or the variable name you chose for the *Login Widget*. If you do not want students to be able to go back to the login and change their name, click the *Disable “back button”* checkbox.



14. That's it! Preview your vignette to ensure everything works properly. To do this, go to the *Menu Bar* and select the *Vignette* drop down menu. From there select *Preview Vignette*. Saving is required before a vignette may be previewed. A dialog box will appear as a reminder.



# Widgets



Login

**Login** - The *Login Widget* prompts the users for identification, and stores the input information for use in other pages. For example: Prompt the user to enter their first and last name in the text box. Add on other inputs to the inputs box. For example, set the labels to “First Name” and “Last Name” with a width of 25, a Max length of 25, and set the input restrictions to DEFAULT. Enter in a name to the “Exports to” text box such as “login\_information” and the login information from the inputs will be stored with the filename for later use (usually for certificate). The two pieces of information from the example will be variables called “First Name” and “Last Name.”

The screenshot shows the configuration interface for the Login widget. It includes a main text box for user prompts, an 'Exports to' field, and an 'Inputs' section for defining multiple input fields. Annotations with red arrows point to specific features:

- Enter text to prompt the user:** Points to the main text box at the top.
- Choose a variable name for the Users Input Data:** Points to the 'Exports to' field.
- Maximum entry character length:** Points to the 'Max length' input field.
- Add/Subtract Labels (ex. First Name, Last Name):** Points to the 'Label' input field.
- Restrict types of characters for Users to input:** Points to the 'Input restriction' dropdown menu, which lists options: DEFAULT, LETTERS, NUMBERS, NO\_SYMBOLS, and NAME.
- Width of entry box:** Points to the 'Width' input field.
- Displayed Label for User Input:** Points to the 'Label' input field.

Buttons for '+', '-', and 'Cancel' are also visible.



**Text** - The *Text Widget* provides the user with the text information. The text box given in the widget is already filled in with default HTML code. By replacing the second line, standard text can be entered. Persons with HTML coding knowledge can format the text further.

Add your text:

```
<div style="padding: 30px; font-size:medium; font-weight: bold">  
Delete this sentence and replace it with your text.  
</div>
```

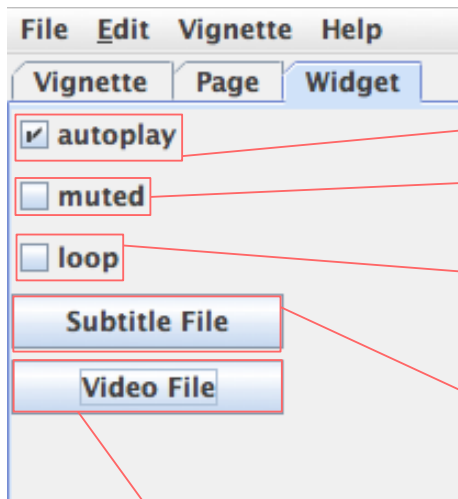
Delete this sentence and  
replace it with your text.  
Use html code for additional  
formatting  
(ex. <center>...</center>)



**Video** - The *Video Widget* displays a video file. By clicking the “Video File” button, the program will prompt the user to browse the computer libraries for a video file. Subtitle files (which must be in .srt format) are uploaded the same way after clicking the “Subtitle File” button. By clicking and checking the box next to “autoplay”, the video in the vignette will play automatically. By clicking and checking the box next to “muted”, the audio in the movie will be muted. By clicking and checking the box next to “loop”, the video in the vignette will replay continuously.

Displays uploaded video/subtitle file in the top right corner of widget settings

Motion\_Footage.mp4



Option for video to play automatically when opened (Checked by default)

Option for video to be muted when opened

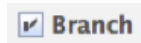
Option for video to continuously loop when opened

Click to upload Subtitle File for video. (Browse Computer Libraries)

Click to upload video (Browse Computer Libraries)



**Question** - The *Question Widget* provides the user with a question and multiple selectable responses. Enter the desired question into the text box next to the phrase “Enter the question text.” Add the desired number of answers with the add and subtract buttons on the far right of the widget. There is a default of two answer text boxes. Enter in the desired answer text into the text boxes. If the “Branch” check box is selected, this will allow the question widget to direct the users to another page based on the selected answer. Select the desired page for each answer next to the answer text box. Note that the pages that will be branched to must be created before creating the *Question Widget*.



When branching is enabled responses can be linked to the selected page

Enter the question text:

1:  Start ▼

2:  Start ▼

Add/Subtract responses to question

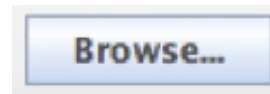
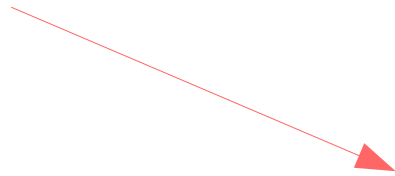


Responses for the multiple-choice question



**Image** - The *Image Widget* displays an image file. By clicking the “Browse...” button on the bottom of the widget, the program will prompt the user to browse the computer libraries for an image file. An image with an aspect ratio of 16:9 (for example, 1920x1080 or 1280x720) will fit the available space. Images with other aspect ratios will be letter-boxed. That is, the image will keep its original aspect ratio and either the sides or top and bottom will be surrounded by black bars.

Click the browse button at the bottom of  
the page to upload an Image file  
(Browse Computer Libraries)





**Frame Player** - Presents videos in a frame by frame fashion. Image sequences can also be displayed. The difference between the Frame Player and the Video widget is that the Frame Player is optimized for looking at video frame-by-frame. The **Video Widget** is better for watching the video at normal speed. Audio can not be played by a Frame Player. To upload frames, click on the "Define" button and follow the instructions below. The number of frames uploaded will be displayed in the middle of the widget. If an autoplay of the frames is desired, enter in a number greater than zero in the text box next to the phrase "Step Time."

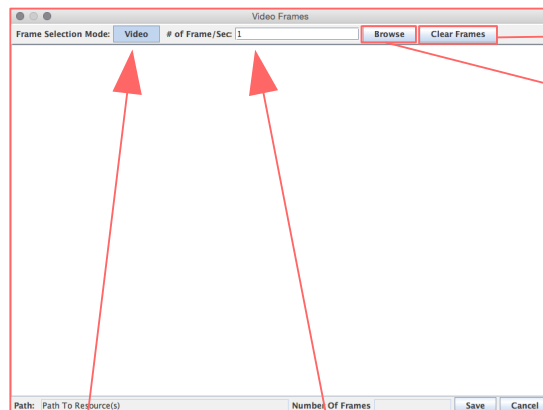
Click to upload video and select parameters

Shows how many frames were uploaded

Set time (seconds) for autoplay option



## Video Frames Window



Clear all imported frames

Select Video/Image files from computer

Enter corresponding fps

Click to choose either Video or Images for the Frame Selection mode

**Video Frames** - This window is opened up when selecting "Select Frames" in the Frame Player widget, X-Y Analysis widget, and Displacement Analysis widget. Click on the button that is next to the phrase "Frame Selection Mode:" to either choose a video or image upload. Click the "Browse" button to browse the computer libraries for the desired images or video. If uploading a video file then the Frames/Sec will automatically be set to the inherent frame rate of the video file. If uploading a series of images then enter the frames per second at which the images were captured in the text box next to the phrase "# of Frames/Sec". This will determine the time per frame in displayed in the vignette. Click the "Clear Frames" button to clear the frames uploaded. When done uploading the frames, press the "Save" button.





**X-Y Analysis** - Set data points at each frame to compile a video analysis data set frame by frame. To upload frames, click on the “Select Frames” button and follow the instructions under “Video Frames” in the manual. To change the settings of the interactions within the frames in the widget, click “Settings” and follow the instructions under “Display Settings.” Within the “Instructions” text box, the instructions can be typed (typically how to use the *X-Y Analysis Widget*. Within the “Hints” text box, hint for the user can be typed. Next to the phrase “Exports to”, enter in a variable name such as “xy\_data” for future importing. The information stored in “xy\_data” will be used in either the *Graph Widget* or *Table Widget*. Next to the phrase “Tracks” is the option to change the tracking to “any.” Next to the phrase “Displays” is the option to change the shape of the click marker of the widget.

See Video Frame Dialogue Box (from Frame Player Widget section)

Choose “any” the other options are in development and are not described here

Choose the type of line or point to display

Define variable name for data

Insert text for instructions

Insert text for hints

**Display Settings** - This window is opened up when selecting “Settings” in the *X-Y Analysis Widget* and *Displacement Analysis Widget*.

**Point Size** – Select size of point clicked on frame.

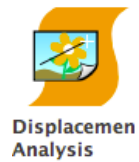
**Successful Click Color** – Select color of correct point selections.

**Latest Click Color** – Select color of most recent point.

**Click Error/Warning Color** – Select color of incorrect point selections.

**Line Width** – Thickness of the vertical lines.

**Horizontal Line Width** – Thickness of the horizontal lines.



Displacement  
Analysis

**Displacement Analysis** – Measure a displacement between two points by video analysis. Within the “Instructions” text box, the instructions can be typed. Within the “Hints” text box, hint for the user can be typed. Next to the phrase “Exports to”, enter in a variable name such as “displacement\_data” for future importing. The information stored in “displacement\_data” will be used in either the “Graph” widget or “Table widget.” To upload frames, click on the “Select Frames” button and follow the instructions under *Video Frames Window* located in the *Frame Player Widget* section of the manual. To change the settings of the interactions within the frames in the widget, click “Settings” and follow the instructions under “Display Settings.”

The screenshot shows the Displacement Analysis widget interface. On the left, there are two buttons: "Select Fram..." and "Settings". In the center, there is a large white box labeled "Instructions:". To the right of the "Instructions:" label is a small white box labeled "Exports To:". Further to the right is a large white box labeled "Hint:". Red arrows point from text annotations to these elements: "See Video Frames Window (from Frame Player Widget section)" points to the "Select Fram..." button; "Define variable name for data" points to the "Exports To:" box; "Insert text for hints" points to the "Hint:" box; "Insert text for instructions" points to the "Instructions:" box; and "See Display Settings Window (from XY Analysis Widget section)" points to the "Settings" button.

See Video Frames Window  
(from Frame Player Widget section)

Define variable  
name for data

Insert text for hints

Select Fram...

Settings

Exports To:

Instructions:

Hint:

Insert text for instructions

See Display Settings Window  
(from XY Analysis Widget section)



**Graph** - Present data sets collected from other widgets on a Graph. On the top portion of the widget, you can set the scale and parameters of the graph. X-min and Y-min set the minimum values of the graph while X-max and Y-max set the maximum values of the graph. X-ticks and Y-ticks set how many tick marks on each axis there will be (including the zero tick mark). X-Label and Y-Label allow the user to label the x-axis and y-axis. There are also the options next to the text boxes to show/hide the legend, x-axis, and y-axis. The bottom half of the widget is where the data is inputted for the graph. There is a default of one equation space and the user can add or subtract equations with the plus and minus buttons on the right of the widget. Label the equation with the text under the phrase "Name." Import the data with the 'Import from' pull down menu. This data will be from previously exported data from either an *X-Y Analysis Widget* or *Displacement Widget*. The text or variables that can be typed into the X and Y text boxes can be found by clicking the question mark next to the phrase "Equation." The variables include x, y, frame, time, red, green, and blue. By just typing in those names exactly, the numbers from the imported data will be plotted on the x or y axis, depending on where the variable is inputted. By clicking the settings button, a window will appear where the user can change the appearance of the data displayed on the graph. The options are as follows:

Use these entry boxes for formatting the Graph

Add/Subtract Data Sets

X-min:  Y-min:  ☒ Show Legend  
 X-max:  Y-max:  ☒ Show Y-Label  
 X-ticks:  Y-ticks:  ☒ Show X-Label  
 X-Label:  Y-Label:

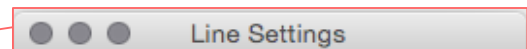


Name the Data Sets

Equation Variables:  
 x: X location of point from analysis.  
 y: Y location of point from analysis.  
 frame: Frame of analysis that the data is from.  
 time: Time of the frame that the data is from.  
 red: Amount of red in the pixels that the user clicked(out of 255).  
 green: Amount of green in the pixels that the user clicked(out of 255).  
 blue: Amount of blue in the pixels that the user clicked(out of 255).

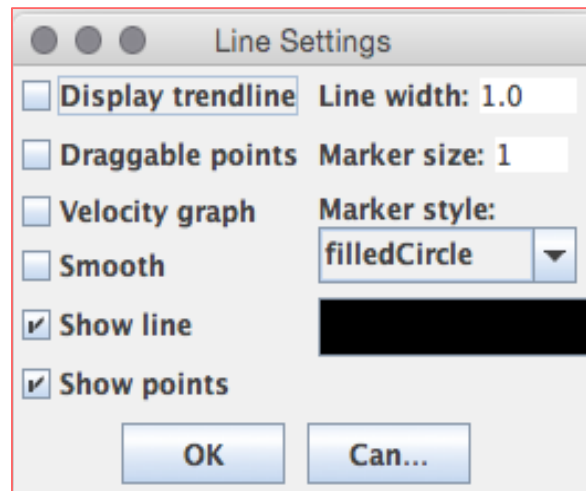
Note: For a Displacement widget, x and y are the components of the displacement vector

Name:  Equations:  Imports from:   
 X:  Y:



...See next page for more information on Line Settings

Equations are used to scale or transform variables before they are plotted. For example, x and y from an x-y analysis widget are in pixels. If you find by trial-and-error that a 1-meter long calibration object has a length of, say, 123 pixels then you would enter  $x/123$  and  $y/123$  as the equations for those values. Instead of trail-and-error, you could create a temporary vignette having only an x-y analysis widget and a table widget, and use that for gathering calibration data. A built-in scaling capability is planned for a future version of Vignette Studio.



**Display trendline** - Add a line of best fit to the data.

**Draggable points** - Enable points for dragging.

**Velocity graph** - Create a velocity versus time graph.

**Smooth** - Smooth the curve displayed on the graph.

**Show line** - Show/hide the line.

**Show points** - Show/hide the individual data points.

**Line Width** - Change the thickness of the line.

**Marker size** - Change the size of the markers.

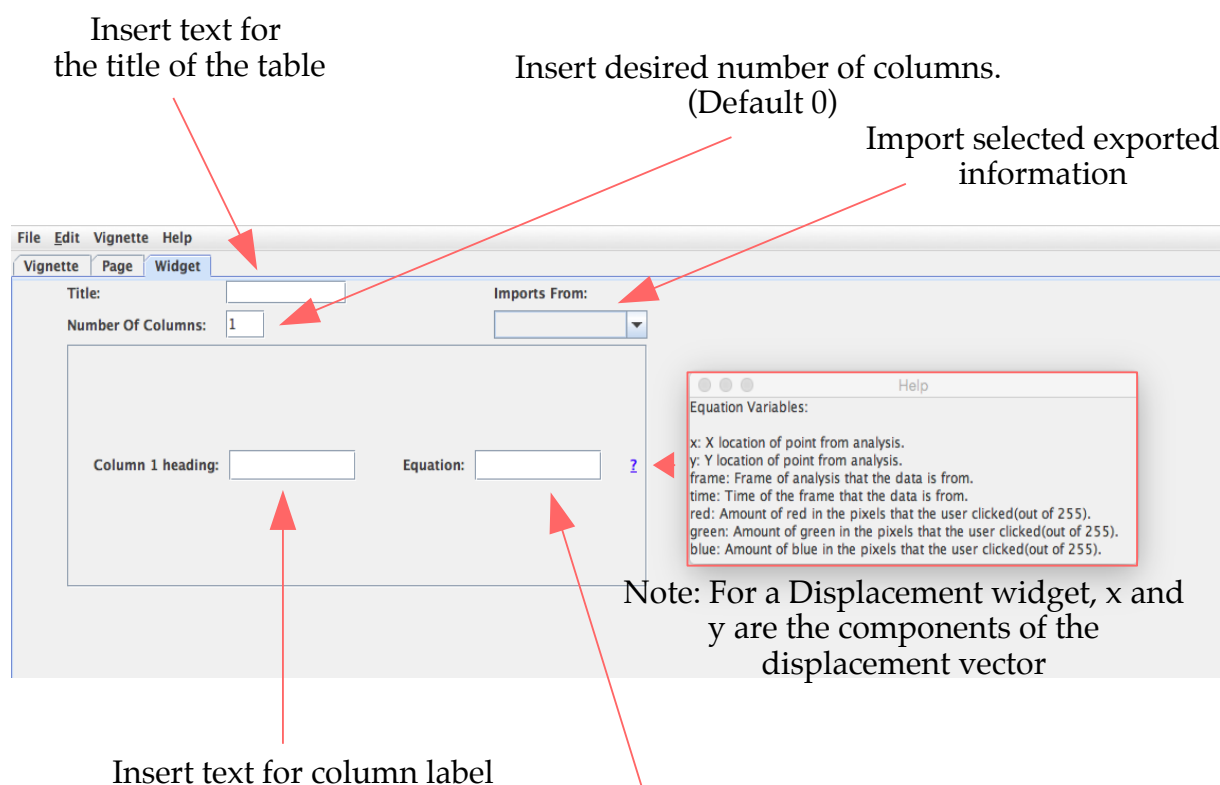
**Marker Style** - Change the shape of the marker.

**Color (Default Black Bar)** - Click this black bar and the user can change the color of the line/markers.



**Table** - Present data sets collected from *X-Y Analysis Widget* in a table format.

In the text box next to the phrase “Title”, the user can enter in the desired title of the table. Import the data with the 'Import from' pull down menu. This data will be from previously exported data from either an *X-Y Analysis Widget* or *Displacement Widget*. The desired number of columns can be inputted in to the text box next to the phrase “Number Of Columns.” For each column, the user can input the column heading and Equation. The columns heading can be typed into the text box next to “Column [number] heading.” The text or variables that can be typed into the Equation text box can be found by clicking the question mark next to the text box. The variables include x, y, frame, time, red, green, and blue. By just typing in those names exactly, the numbers from the imported data will be displayed on the table.



Equations are used to scale or transform variables before they are plotted. For example, x and y from an x-y analysis widget are in pixels. If you find by trial-and-error that a 1-meter long calibration object has a length of, say, 123 pixels then you would enter  $x/123$  and  $y/123$  as the equations for those values. Instead of trail-and-error, you could create a temporary vignette having only an x-y analysis widget and a table widget, and use that for gathering calibration data. A built-in scaling capability is planned for a future version of Vignette Studio.



Answer

**Answer** - The answer widget provides users with a unique feedback option for each possible answer. Before editing the *Answer Widget*, it is advised to make a related question widget first. The answer widget gains its information from a selected question widget. If there is only one question widget within the vignette, the answer widget will automatically load the answer selection from that *Question Widget*. If there are multiple *Question Widgets*, the user can select which answers to load at the top of the answer widget. For every answer given in the selected *Question Widget*, there will be a text box for a response text to that answer.

For example, if the question was “What organization does GHS stand for?” and the answers were either “Globally Harmonized Systems”, “Global Hazardous Selections”, “Geographical Harmful Sources” and “Geological Harmful Systems”, then there will be four text boxes given in the answer widget. In the four text boxes something like “This is the correct answer.” or “This answer is incorrect.” can be typed in the text boxes.

Ex. Question Widget

What organization does GHS stand for?

Enter the question text:

1: Globally Harmonized Systems

2: Global Hazardous Selections

3: Geographical Harmful Sources

4: Geological Harmful Systems

File Edit Vignette Help

Vignette Page Widget

PQuestion\_W1\_question

The GHS organization stands for...?

Globally Harmonized Systems

Global Hazardous Selections

Geographical Harmful Sources

Geological Harmful Systems

Use this drop down to import Answer labels from already created Question Widgets

Answer labels created in Question Widgets can be imported within Answer Widgets

Enter text for unique feedback to every possible answer selection

This is the correct answer.

This answer is incorrect.

This answer is incorrect.

This answer is incorrect.

Cancel



**Certificate** - The *Certificate Widget* imports collected login information and displays it on a certificate. With the drop-down menu next to “Imports from:”, the user can choose where to import the login data from. From the example from the *Login Widget* section, the user would import “login\_information.” The text box below is the formatting section of the certificate and where to display the information. The data from the vignette can be displayed with the variables found by clicking the question mark next to “Content” or the data imported. From the example from the *Login Widget* section, the first and last name can be displayed by typing in “\First Name” and “\Last Name” (same style as the variables provided). The formatting in the text box follows standard HTML coding. The “Disable “back” button” option allows the vignette to prevent the user from going back to previous pages once they reach the certificate page.

Import selected export information.  
(Typically from Login Widget)

If selected, prevents users from going back to previous pages

Imports from:   
Disable "back" button: ☐

? Content:

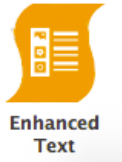
```
<p align='center'>DEFAULT CERTIFICATE</p>
<p align='center'>Time:\hours : \minutes : \seconds</p>
<p align='center'>Date: \date</p>
```

Help button helps with entering information

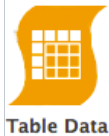
Enter desired text for Certificate (HTML Formatting Required)

## Widgets Under Development

The following list of widgets are still under development, but are still included in VignetteStudio-1.7.5.jar. Though their functionality may not be optimized, they are available for testing with a variety of new features.



Similar to the *Text Widget*, the *Enhanced Text Widget* displays any desired text. However, presets are available within the widget settings to add more fields where the user can enter information. For example, a login page could be created using an enhanced text widget.



The *Table Data Widget* is designed to collect data through direct user input in the form of text and numbers. This data can then be imported into a *Bar Graph Widget* for better visualization.



A variation on the *Graph Widget*, except it creates bar graphs. It must be used with a *Table Data* widget as a source of data.



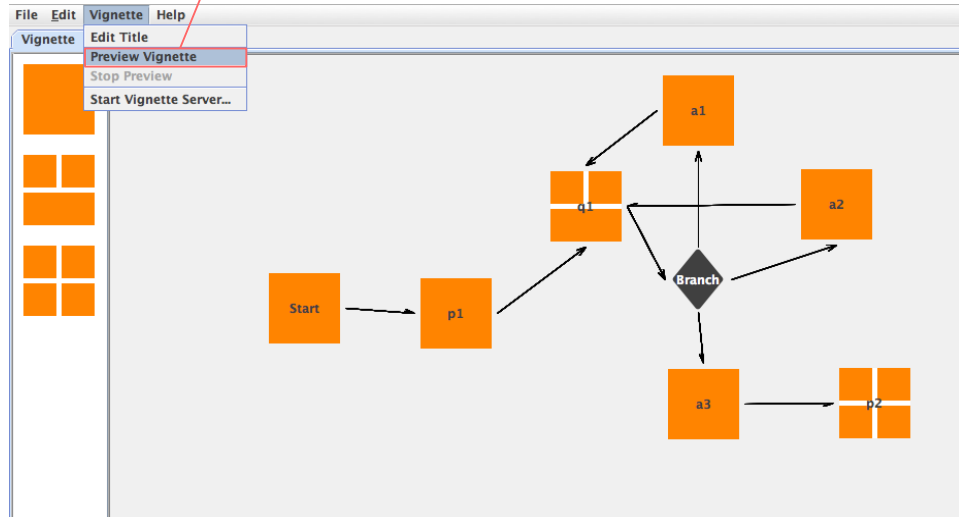
The *Slider Branch Widget* generates multiple branches based on values dictated by a user's input. It performs in a similar fashion to the *Question Widget* however it allows for a large range of custom input answer choices (ex. numerical answers and equations).



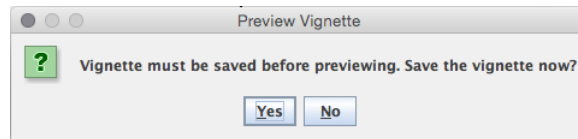
# Previewing Vignettes

**Start Preview** - Preview a vignette anytime during the building process. To do this, left-click on the vignette dropdown from the Menu Bar.

Left-click on "Preview Vignette."



A dialogue box will appear, asking the vignette composer to "Save" the vignette before being able to preview the vignette.



A preview of the vignette will appear within a new window of the computers default internet browser.

**Stop Preview** - Disable the vignette preview by left-clicking "Stop Preview" in the vignette dropdown.

# Advanced Features

**Setting Up a Server** - The server is used to share the vignette with others. By following the steps below, the user will create a URL. People on the same network can enter in the URL in any web browser and complete the vignette.

- Click on “Vignette” in the top menu bar
- Click on “Start Vignette Server...”
- Do not change the numbers in “Bind to Host” or “Port” (Unless you have prior knowledge of servers)
- Click “Start”
- The URL can be copied into an internet browser to interact with the vignette. (Note: At some institutions, the IT department has set up the network so this will not work because of network security worries. Try it yourself before doing it in class!)
- Click “Stop” to stop the server

